DOLBIK, M. S.

"Birds of the Bellorussian Polesye." Cand Biol Sci, Belorussian State U imeni V. I. Lenin, Minsk, 1954. (KL, No 1 Jan 55)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (13) SO: Sum. 508, 29 Jul 55

DOLBIK, M.S.

Water birds of Polesye. Vestsi AN BSSR Ser.biial.nav.no.1:109-128 '56.
(Polesye--Water birds) (MLRA 9:9)

DOLBIK, M.S.

Nesting of Phoenicurus ochruros Gmelin in White Russia. Vestsi AN BSSR.Ser.biial.nav. no.3:121-122 '56. (MLRA 10:1)
(White Russia--Redstart)

DOLBIK, M.S.

Zoogeographical characteristics of Polesye. Biul. Inst. biol. AN BSSR no.2:233-238 '57. (MIRA 11:2)
(Polesye--Birds--Geographical distribution)

DOLBIK, M.S.

Nesting habitats and reproduction of tetraonid birds in southern White Russia. Biul. Inst. biol. AN BSSR no.2:239-241 '57.
(White Russia--Grouse) (Birds--Eggs and nests) (MIRA 11:2)

DOLBIK, M.S.

Occurrence of the capercaillie in the White Russian S.S.R. and changes in its distribution during the past 30 years. Vestsi AN BSSR, Ser. biial. nav. no. 2:70-88 '58. (MIRA 11:8)
(White Russia--Grouse)

DOLBIK, M.S.

Courses of development of the ornithological fauna of the White Russian Polesye. Biul.Inst.biol.AN BSSR no.3:246-249 '58.
(MIRA 13:7)

(POLESYE--BIRDS)

DOLBIK, M.S.; GLADKOV, N.A., prof., doktor biolog.nauk, red.; BULAT, O., red.izd-va; VOLOKHANOVICH, I., tekhn.red.

[Birds of the White Russian Polesye] Ptitsy Belorusskogo Poles'ia. Minsk, Izd-vo Akad.nauk BSSR, 1959. 267 p. (MIRA 12:11)

1. Moskovskiy gosudarstvennyy universitet (for Gladkov).
(Polesye--Birds)

DOLBIK, M.S.

Distribution of black grouse in White Russia. Vestsi AN BSSR. Ser.biial.nav. no.2:75-81 '59. (MIRA 12:9)
(WHITE RUSSIA--GROUSE)

DOLBIK, M.S.; VYATOKHIN, V.I.

Distribution and geographical variability of layings of the gray partridge in White Russia. Vestsi AN BSSR. Ser. biial. nav. no.3: 122-124 '59. (MIRA 12:12)
(White Russia--Partridges) (Birds--Eggs and nests)

DOLBIK, M.S.

Some rare birds of the White Russian Polesye. Trudy Probl. i tem. sov. no.9:97-101 '60. (MIRA 13:9)

1. Institut biologii Akademii nauk BSSSR.
(Polesye--Birds)

DOLBIK, Mikhail Stepanovich; SERZHANIN, I.N., prof., red.; BULAT, O., red.izd-va; SIDERKO, N., tekhn.red.

[Birds of prey and their identification in nature] Khishchnye ptitsy i ikh raspoznavanie v prirode. Minsk, Izd-vo Akad.nauk BSSR, 1960. 49 p. (MIRA 14:3)
(Birds of prey)

DOLBIK, M.S.

Semiconductor thermistors in experimental studies of the hatching temperature of wild birds. Vop. ekol. 4:102-103 '62. (MIRA 15:11)

1. Akademiya nauk Belorusskoy SSR, Minsk.
(Incubation) (Thermistors)

DOLBIK, M.S.

Studying the hatching temperature of the hazel hen with the help of a semiconductor transducer. Ornitologiia no.4:389-393 '62. (MIRA 16:4)
(Grouse) (Incubation) (Transducers)

DOLBIK, M.S.; DUCHITS, V.N. [Duchyts, U.M.]; TARLETSKAYA, R.Yu.

Birds of northern White Russia. Part 1: Gallinaceans, columbs, cranes, sandpipers, gulls, loons, grebes, anserines, web-footed birds, grassorial birds, birds of prey. Vestsi AN BSSR Ser. biial. nav. no.2:84-98 '63 (MIRA 17:3)

SERZHANIN, I.N., red.; DOLBIK, M.S., red.; MANINA, L., red.izd-va; VOLOKHANOVICH, I., tekhn. red.

[Manual for a hunter and angler] Spravochnik okhotnika i rybolova. Minsk, Izd-vo "Nauka i tekhnika," 1964. 422 p. (MIRA 17:4)

DOLBIK, M.S.; DUCHITS, V.N. [Duchyts, V.N.]; TARLETSKAYA, R.Yu.

Birds of northern White Russia. Report No.2: Strigiformes, Cuculiformes, Caprimulgiformes, Coraciiformes, Upupiformes, Piciformes, Micropodiformes, Passeriformes. Vesti AN BSSR. Ser. biial. nav. no.1:107-120 '64. (MIRA 17:6)

SERZHANTN, I.N., otv. red.; ARZAMASOV, I.T., red.; DOLBIK, M.S., red.; MERZHEYEVSKAYA, O.I., red.; NIKITENKO, M.F., red.

[Abstracts of reports of the Second Zoological Conference of the White Russian S.S.R.] Tezisy dokladov Zoologicheskoi konferentsii Belorusskoi SSR. Minsk, Izd-vo AN BSSR, 1962. 315 p. (MIRA 18:1)

1. Zoologicheskaya konferentsiya Belorusskoy SSR. 2d, Minsk, 1962. 2. Otdel zoologii i parazitologii AN BSSR, gorod Minsk (for Nikitenko).

DOLBIK, M.S.

Testing a new contact apparatus for studying the behavior of hatching birds. Ornitologiia no.7:365-370 '65.

(MIRA 18:10)

ALYAB'YEV, V.I., kand. tekhn. nauk; VINOGOROV, G.K., kand. tekhn. nauk; POLISHCHUK, A.P., kand. tekhn. nauk; Prinimal uchastiye KRAL'KIN, A.S., inzh.; DOLBILIN, I.P., inzh., retsenzent; YERMOLIN, I.P., inzh., otv. red.; KOZLOV, A.D., red.izd-va; GRECHISHCHEVA, V.G., tekhn. red.

[Lumbering camps; mechanization of logging operations. A handbook] Lesozagotovki; mekhanizatsiia lesosechnykh rabot. Spravochnik. Moskva, Goslesbumizdat, 1962. 450 p.
(MIRA 16:6)

(Lumbering)

DOLBILIN, Ivan Prokop'yevich, inzh.; UDILOV, Viktor Ivanovich, inzh.; KUDRYAVTSEV, N.F., inzh., retsenzent; GETLING, Yu., red.; GOLOBOKOVA, L., tekhn. red.

[Mechanization and automation in lumbering camps] Mekhanizatsiia i avtomatizatsiia na lesozagotovkakh. Sverdlovsk, Sverdlovskoe knizhnoe izd-vo, 1962. 96 p. (MIRA 16:1)
(Sverdlovsk Province—Lumbering—Machinery)

BLAGOVISNYY, V.I.; GILYAZETDINOV, L.P.; DOLBILIN, Ye.N.; KORABEL'NIKOVA G.P.; YAGOVKIN, A.G.

Using liquid stock in the production of furnace black. Gaz. prom. 7 no.11:43-46 N '62. (MIRA 17:9)

24.6000,16.8100,16.8300

77002
SOV/56-37-6-42/55

AUTHORS: Burgov, N. A., Danilyan, G. V., Dolbilkin, B. S., Lazareva, L. E., Nikolaev, F. A.

TITLE: Letter to the Editor. Fine Structure of a Gigantic Resonance

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1959, Vol 37, Nr 6, pp 1811-1814 (USSR)

ABSTRACT: In their work, R. Basile and C. Schuhl (cf., C. R. Paris, 240, 2399, 1955) have shown that the yield curves of photonuclear reactions, in the case of light nucleus, exhibit a break in the region of the resonance. The position and the magnitude of the break depend on the substance. The data on the width Γ of these breaks are contradictory. Therefore, the existence of this resonance was investigated by the direct method. This method consisted of the investigation of the fine structure of gigantic resonance by means of total absorption. The X-ray beam with maximum energy E_{max} = 28.8 mev was

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Letter to the Editor. Fine Structure of a Gigantic Resonance

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SOV/56-37-6-42/55

collimated with a Pb collimator 26 cm thick. Behind the collimator was a graphite block 60 cm (96.6 g/cm^2) thick. The spectrum of γ-quanta was measured by means of a paired spectrometer. The magnetic field in the spectrograph was stabilized by the "proton resonance" method with a precision better than $\pm$ 0.01% (at $h\nu$ = 20 mev, less than $\pm$ 2 kev). The resolving power of the setup at 9716 mev (γ-line from the capture of thermal neutrons by Cr^{53} nucleus) was 65 kev. The experimental width of the peak observed for carbon nucleus was $\sim$150 kev. The integral cross section of the peak was 9 mev x mbn. These results show that the method is effective in studying the fine structure of gigantic resonances. There is a schematic diagram of the setup; 1 graph; and 11 references, 2 French, 9 U.S. The 5 most recent U.S. references are: A. S. Penfold, B. M. Spicer, Phys. Rev. 100, 1377 (1955); C. Tzara, J. Phys. Rad., 17, 1001 (1956); L. Katz, National Bureau of Standards Photonuclear Conference,

Card 2/3

Letter to the Editor. Fine Structure of a Gigantic Resonance

77002
SOV/56-37-6-42/55

Washington (1958); W. C. Barber, W. D. George, D. D. Reagan, Phys. Rev., 98, 73 (1955); M. V. Mihailovic, G. Pregl, G. Kernel, M. Kregur, Phys. Rev., in print.

ASSOCIATION: P. N. Lebedev Phys. Inst. Acad. Sciences USSR, USSR (Fizicheskiy institut imeni P. N. Lebedev Akademii nauk SSSR, SSSR)

SUBMITTED: August 26, 1959

Card 3/3

S/056/62/043/001/010/056
B125/B102

AUTHORS: Burgov, N. A., Danilyan, G. V., Dolbilkin, B. S., Lazareva, L. Ye., Nikolayev, F. A.

TITLE: Cross section for γ-quantum absorption by O^{16} nuclei in the giant resonance region

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 43, no. 1(7), 1962, 70-78

TEXT: The total cross section of γ-quantum absorption by O^{16} nuclei in the energy range 18.9-26.6 Mev was measured by the absorption method with a high-resolution pair magnetic gamma spectrometer used as the detector. The measurements were performed on the 250-Mev synchrotron of the FIAN at a maximum X-ray energy of 200 Mev. The X-ray pencil incident on the absorber (100 g/cm^2 distilled water) was monitored by a thin-walled ionization chamber (integrator). The electron-positron pairs were recorded by two plastic scintillators. The total cross section σ_{tot} for absorption in water was calculated from a measurement of N_o/N (N_o = number of

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S/056/62/043/001/010/056
B125/B102

Cross section for γ-quantum ...

coincidences without absorber, N = number of coincidences measured in the energy range 18.9-26.6 Mev with absorber) and was found to be $(M/AQL)\ \ln(N_o/N)$, where M is the molecular weight, A is Avogadro's number, Q is the density of the absorber, and L is its length. The cross section for γ-quantum absorption by O^{16} nuclei, obtained by subtracting the cross sections for pair production and for the Compton effect from the experimental value of σ_{tot}, has four distinct resonance peaks of several hundred kev width at 22.3, 23.05, 24.3, and 25.15 Mev. The sharpness of the resonances in the range 19-21 Mev (especially at 19.4 and 21.2 Mev) is insufficient for a discussion of the structure of the cross section. The integral absorption cross section for the energy range 18.9-26.6 Mev, which was calculated from the cross section for the $O^{16}(\gamma,N)$ reaction to be 150^{+30}_{-10} Mev·mb, is equal to the sum of the integral cross sections for the reactions $O^{16}(\gamma,n)$ and $O^{16}(\gamma,p)$. For this reason, the cross sections for the other reactions in the giant resonance region are relatively small. There are 4 figures and 1 table.

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Cross section for γ-quantum ...

S/056/62/043/001/010/056
B125/B102

ASSOCIATION: Fizicheskiy institut im. P. N. Lebedeva Akademii nauk SSSR (Physics Institute imeni P. N. Lebedev of the Academy of Sciences USSR). Institut teoreticheskoy i eksperimental'noy fiziki Akademii nauk SSSR (Institute of Theoretical and Experimental Physics of the Academy of Sciences USSR)

SUBMITTED: March 7, 1962

Card 3/3

L 17859-63 EWT(m)/BDS AFFTC/ASD

ACCESSION NR: AP3003683 S/0048/63/027/007/0866/0874 58 56

AUTHOR: Burgov,N.A.; Danilyan,G.V.; Dolbilkin,B.S.; Lazareva,L.Ye.; Nikolayev,F.A. 19

TITLE: Levels in C^{12} and O^{16} observed in studying the gamma absorption cross section in the region of the giant resonance /Report of the Thirteenth Annual Conference on Nuclear Spectroscopy held in KIEV from 25 January to 2 February 1963/

SOURCE: AN SSSR, Izv.Seriya fizicheskaya, v.27, no.7, 1963, 866-874

TOPIC TAGS: giant resonance, gamma-ray absorption, energy level, C^{12}, O^{16}

ABSTRACT: Investigations performed during the last decade indicate that the broad peak in the energy variation of the absorption cross section for light nuclei is actually a group of individual resonances and that what is called the giant resonance is actually the envelope of these individual resonances. Hence investigations of giant resonances can yield information on high-lying levels in light nuclei. One possibility for such studies is the use of continuous bremsstrahlung with separation of a narrow γ-ray interval by means of a detector with high resolution. By way of such a detector the authors designed a magnetic pair spectrometer. It was used for measuring the γ-ray absorption cross sections of C^{12} and O^{16} in the 13 to 27 MeV interval. The equipment was used in conjunction with the Physical

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L 17859-63
ACCESSION NR: AP3003688

Institute 250 MeV synchrotron operated at a maximum bremsstrahlung energy of 200 MeV. The experimental arrangement is shown in Fig.1 of the Enclosure. The measurements disclosed a number of levels in C^{12} and O^{16} in the energy range from 16 to 27 MeV. There are listed in tables and the deduced energy values are compared with the experimental results of other investigators and the results of theoretical calculations. In many cases the agreement is good. The net results, however, point up the need for more thorough investigations of giant resonances using improved techniques and particularly detectors with higher resolution. Orig. art. has: 4 figures and 4 tables.

ASSOCIATION: Institut teoreticheskoy i eksperimental'noy fiziki Goskomiteta po mirnomu ispol'zovaniyu atomnoy energii SSSR (Institute of Theoretical and Experimental Physics, State Committee on Peaceful Uses of Atomic Energy, SSSR); Fizicheskiy institut AN SSSR im. P. N. Lebedeva (Physics Institute AN SSSR)

SUBMITTED: 00 DATE ACQ: 02Aug63 ENCL: 01

SUB CODE: NS NO REF SOV: 003 OTHER: 015

L 17602-63 EWT(m)/BDS AFFTC/ASD S/056/63/044/003/015/053

55
54

AUTHOR: Dolbilkin, B. S., Zapevalov, V. A., Korpin, V. I., and [redacted]

19

TITLE: Shape of the bremsstrahlung spectrum near the high frequency limit

PERIODICAL: Zhurnal eksperimental'noy i tekhnicheskoy fiziki, v. 44, no 3, 1963, 866-867

TEXT: There existed reasons for the belief that the bremsstrahlung cross section curves calculated by L. I. Schiff (Ref. 1: Phys. Rev., 83, 252, 1951) are not correct near the upper limit of the γ-quantas because of the probable failure of the Born approximation in this region. Consequently, the shape of a bremsstrahlung spectrum with an end point energy of 17.15 Mev was investigated with a magnetic pair spectrometer with a resolution ~150 kev near the high frequency limit. It is shown that in the measured energy range the shape of the spectrum can be satisfactorily described by the relation derived by Schiff, although this agreement is most probably accidental. There is 1 figure.

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L 17602-63 S/056/63/044/003/015/053

Shape of the bremsstrahlungspectrum...

ASSOCIATION: Fizicheskiy institut im. P. N. Lebedeva Akademii nauk SSSR (Physics Institute im. P. N. Lebedev of the Academy of Sciences USSR

SUBMITTED: October 17, 1962

Card 2/2

BOGDANKEVICH, O.V.; DOLBILKIN, B.S.; LAZAREVA, L.Ye.; NIKOLAYEV, F.A.

Inelastic scattering of gamma quanta on Ag^{107} nuclei. Zhur. eksp. i teor. fiz. 45 no.4:882-891 O '63. (MIRA 16:11)

1. Fizicheskiy institut imeni P.N.Lebedeva AN SSSR.

ACCESSION NR: AP4009083 S/0056/63/045/006/1693/1703

AUTHORS: Burgov, N. A.; Danilyan, G. V.; Dolbilkin, B. S.; Lazareva, L. Ye.; Nikolayev, F. A.

TITLE: Cross section for absorption of Gamma quanta by carbon nuclei in the giant resonance region

SOURCE: Zhurnal eksper. i teoret. fiziki, v. 45, no. 6, 1963, 1693-1703

TOPIC TAGS: carbon nucleus, gamma absorption cross section, giant resonance, nuclear absorption, nuclear absorption cross section, integral cross section

ABSTRACT: In order to gain additional information about the high-lying excited levels of carbon, the cross section for nuclear absorption of γ rays by carbon was measured by the absorption method in the 13--27 MeV region, using the 250-MeV synchrotron of the

ACCESSION NR: AP4009083

Fizicheskiy institut AN SSSR (Physics Inst. AN SSSR) and a pair magnetic spectrometer as the γ detector. The cross section curve has five peaks at 16.5, 17.6, 19.1, 23, and 25.6 MeV. The measured C^{12} nuclear absorption cross section in the giant resonance region is compared with theoretical calculations and with experimental photonucleon spectra and cross sections for the $C^{12}(\gamma, n)$ and $C^{12}(\gamma, p)$ reactions in the same energy region. The integral cross section in this region is found to be 84 ± 10 MeV-mb and comprises about one-half the value calculated from the sum rule, indicating that in the case of carbon the giant resonance region below 30 MeV includes approximately half of the integral cross section for dipole transitions. "We wish to thank N. S. Kozhevnikov for much assistance with the measurement and data reduction, and B. A. Tulupov for numerous profitable discussions." Orig. art. has: 2 figures, 6 formulas, and 3 tables.

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ACCESSION NR: AP4009083

ASSOCIATION: Institut teoreticheskoy i eksperimental'noy fiziki (Institute of Theoretical and Experimental Physics); Fizicheskiy institut im. P. N. Lebedeva AN SSSR (Physics Institute, AN SSSR)

SUBMITTED: 03Jul63 DATE ACQ: 02Feb64 ENCL: 00

SUB CODE: PH NO REF SOV: 003 OTHER: 029

Card 3/3

DOLBILKIN, B. S.;ZAPEVALOV, V. A.; KORIN, V. I.; LAZAREVA, L. Ye.; NIKOLAYEV, F. A.

"Gamma absorption cross-section of Mg and Al nuclei in the giant resonance region."

report submitted for Intl Conf on Low & Medium Energies Nuclear Physics, Paris, 2-8 Jul 64.

Lebedev Inst, Moscow.

L 2356-66 EWT(m)/EWP(t)/EWP(b) DIAAP/IJP(c) JD

ACCESSION NR: AP5016285 UR/0386/65/001/005/0047/0054

AUTHOR: Dolbilkin, B. S.; Korin, V. I.; Lazareva, L. Ye.; Nikolayev, F. A.

TITLE: Cross section for the absorption of gamma quanta by oxygen nuclei in the energy interval 13.5 -- 22 MeV

SOURCE: Zhurnal eksperimental'noy i tekhnicheskoy fiziki, Pis'ma v redaktsiyu. Prilozheniye, v. 1, no. 5, 1965, 47-54

TOPIC TAGS: oxygen, gamma ray absorption, nuclear cross section

ABSTRACT: The authors present results of more accurate measurements, made by a procedure previously described (ZhETF v. 43, 70, 1962, Izv. AN SSSR ser. fiz. v. 27, 886, 1963), of the cross section for the absorption of gamma quanta by O^{16} nuclei. The measurements were made with a 260 MeV synchrotron of the Physics Institute of the Academy of Sciences. To increase the efficiency of the method, the gamma rays were detected with a 9-channel paired magnetic spectrometer, described in detail elsewhere (Nucl. Phys. in press). The results are shown in Fig. 1 of the Enclosure. The corresponding energies of the O^{16} levels are calculated and tabulated. The results obtained by various methods are sufficiently close to one another. There is, however, some discrepancy between the theoretical and experimental values ob-

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ACCESSION NR: AP5016285

tained for the relative sum of the oscillator strengths for the first three transitions. Possible causes of the discrepancy are briefly discussed. Orig. art. has: 2 figures and 1 table.

ASSOCIATION: Fizicheskiy institut im. P. N. Lebedeva AN SSSR (Physics Institute, AN SSSR)

SUBMITTED: 28Apr65 ENCL: 01 SUB CODE: NP

NO REF SOV: 003 OTHER: 011

Card 2/3

L 2356-66

ACCESSION NR: AP5016285

ENCLOSURE: 01

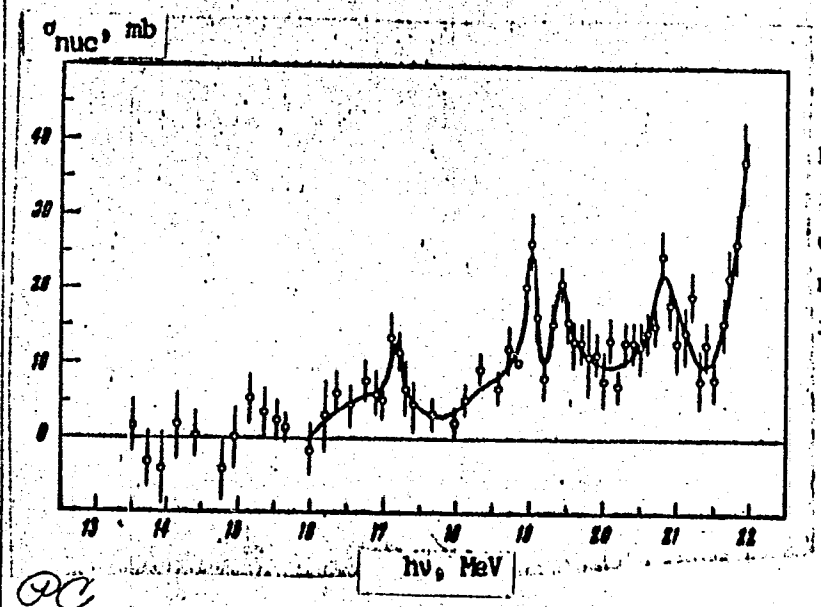

Fig. 1. Cross section for the absorption of gamma quanta by O^{16} nuclei in the energy interval 13.5 - 22 MeV.

Card 3/3

L 41313-66 EWT(m)/EWP(t)/ETI IJP(c) JH/JW/JD

ACC NR: AP6019632 (A,N) SOURCE CODE: UR/0048/66/030/002/0349/0358

AUTHOR: Dolbilkin, B.S.; Zapevalov, V.A.; Korin, V.I.; Lazarova, L.Yo.; Nikolayev, F.A.

ORG: Physics Institute im. P.N.Lebedev of the Academy of Sciences of the SSSR (Fizicheskiy institut Akademii nauk SSSR)

61 58 B

TITLE: Gamma ray absorption cross sections of F-19, Mg-24, and Ca-40 in the 10 to 30 MeV energy region /Report, Fifteenth Annual Conference on Nuclear Spectroscopy and Nuclear Structure, held at Minsk, 25 January to 2 February 1965/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 30, no. 2, 1966, 349-358

TOPIC TAGS: gamma ray absorption, gamma spectrometer, absorption spectrum, fluorine, magnesium, calcium

ABSTRACT: An electron-positron pair type γ-ray spectrometer with an energy resolution of 220 keV at 20 MeV has been employed to measure the absorption cross sections of F^{19}, Mg^{24}, and Ca^{40} for 10 to 30 MeV γ rays in the bremsstrahlung beam from a 260 MeV synchrotron. As absorbers there were employed a 138.6 g/cm^2 block of commercial teflon (the absorption due to carbon was eliminated with the aid of measurements with a 33.3 g/cm^2 graphite absorber), a 112.4 g/cm^2 block of 99.9% pure metallic magnesium, and a 70.84 g/cm^2 block of 99% pure metallic calcium, kept in an oil bath. The measured absorption cross sections were corrected for non-nuclear absorption due to

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L 42313-66

ACC NR: AP6019632

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pair production and the Compton effect by techniques described in detail elsewhere by N.A.Burgov and the authors (Zh. eksperim. i. teor. fiz., 48 70 (1962); 45, 1693 (1963)). The nuclear absorption cross sections are presented graphically, are compared with the data and calculations of numerous experimenters and theoreticians, and are discussed at length. The γ-ray absorption cross sections of F^{19}, Mg^{24}, and Ca^{40}, integrated over the investigated energy range, were 335, 365, and 930 mb MeV, respectively. The integrated cross sections of F^{19} and Ca^{40} agree, within the experimental error, with the values given by the dipole sum rule, but the measured integrated cross section of Mg^{24} is only 72% of the sum rule value, although there are theoretical calculations indicating that substantially all the dipole transitions in Mg^{24} should lie below 30 MeV. Further theoretical work is required. The authors thank N.S.Kozhevnikov for assistance with the measurements, P.A.Cherenkov for the opportunity to use the 260 MeV synchrotron, and B.A.Tulupov for valuable discussions. Orig. art. has: 2 formulas, 5 figures, and 6 tables.

SUB CODE: 20 SUBM DATE: 00 ORIG. REF: 008 OTH REF: 021

Card 2/2 hs

ANDREYEV, I.A.,prof.; GLUSKIN, L.Ya., kand.tekhn.nauk; LITVINOV, V.D., inzh.; KOVACHICH, V.A., inzh.; FRUMKIN, I.A., inzh.; MOSHCHUK, Ya.I., inzh.; DOLBILKIN, V.I., inzh.; ROMANOV, P.A., inzh.; BOYKO, A.B.

Using furnaces with basic high-refractory arches to improve the quality of chromium steel. Stal' 20 no.10:896-898 O '60. (MIRA 13:9)

1. TSentral'nyy nauchno-issledovatel'skiy institut i Izhorskiy zavod. (Chromium steel--Metallurgy) (Open-hearth furnaces)

SOV/49-58-8-1/17

AUTHORS: Monakhov, F.I. and Dolbilkina, N.A.

TITLE: The Structure of Microseisms (Struktura mikroseysm)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Seriya Geofizicheskaya, 1958, Nr 8, pp 937 - 945 (USSR)

ABSTRACT: The majority of the work in this subject has been restricted to the two-dimensional case, i.e. oscillations only in the horizontal plane. Assuming that microseisms consist mainly of Rayleigh waves, the oscillations in the horizontal plane are mainly elliptical, with the major axis in the direction of the source. Båth (Ref 1) was, however, correct in saying that the nature of microseisms could not be entirely explained from traces taken in one plane. Still, many interesting results have been obtained from this approximation, e.g. the dominance of Rayleigh waves (Refs 1-9) - the presence of Love waves in microseisms has been affirmed (Refs 3,5) and denied (Ref 7) (It has been suggested that the Love waves arise from the Rayleigh waves en route from the source). The traces have also been used to determine the sources of the microseisms (with no very great accuracy). These have been found to coincide with the centres or cold fronts of cyclones.

Card1/9

The present article contains some results from analysis of microseismic oscillations.
The normal, observational methods used are either insufficiently accurate or else require too complicated an analysis. In 1952, G.A. Gamburtsev (Ref 10) suggested a method based on the phase correlation and amplitude characteristics of waves recorded by a group of seismographs, of which the axis of maximum sensitivity was inclined to the horizontal at a given angle. This method was developed by Ye.I. Gal'perin and used by the authors.
Measurements were carried out in Yalta from Autumn, 1956 to Spring, 1957. The apparatus consisted of eight vertical seismographs, inclined at 45° to the horizontal and positioned through 45° in azimuth. Another seismograph was placed with the axis of maximum sensitivity vertical. Seismographs of type VEGIK and galvanometers of type M-21/5 were used; the instrumental constants being $T_o = 3$ sec, $D_o = 1.5$, $T_1 = 6.7$ sec, $D_1 = 0.5$.

In this method, considerable attention has to be paid to errors connected with the determination of phase changes. To reduce these errors as much as possible, strict control must be kept on the instrumental parameters - in this case, during the whole period, the amount never exceeded 0.1 sec. Considering the method in more detail, the co-phasal axis of the Rayleigh waves is given by:

$$\tan \beta = \frac{B_o}{A_o} \cot \phi \cos \omega \qquad (1)$$

where β is the maximum phase displacement in the channels; B_o and A_o are the minor and major axes of the ellipse; ϕ is the angle of inclination of the seismograph axes to the horizontal; ω is the azimuth of the axes. Putting $A_o = 0$, the equivalent equation for Love waves is obtained (2). Eqs.(3) and (4) give the dependence of amplitude on seismograph azimuth for Rayleigh and Love waves, respectively. The amplitudes of Rayleigh waves vary between $A_o \sin\phi$ and

$$\sqrt{A_o^2 \sin^2\psi + B_o^2 \cos^2\psi}$$

and the amplitudes of Love waves vary from zero to $B\cos\psi$. Figure 1 shows a microseismogram for an azimuthal layout, with the co-phasal axis for the Rayleigh waves drawn in. The optimum number of seismographs in this type of arrangement depends on the accuracy of measurement of the phase changes and on the periods of the waves registered. With an error of 0.1 sec and a microseism period of 3 sec., Eq.(1) gives a maximum change in ω of 45°. Thus, at Yalta, eight seismographs were used.

The position of the vibration plane for Rayleigh waves can be determined either by the maximum phase change or by the method of intersection of equi-phase planes suggested by Ye.I. Gal'perin. In the first case, the error was $\pm 22.5^\circ$ and in the second case, somewhat less.

The true Rayleigh waves discussed above (ellipses in a plane perpendicular to the horizon) are rarely met in microseisms - the plane usually being inclined at some angle

to the horizon. The method of equi-phase plane intersection can still be used here to give the position of the vibration plane. Although the oscillation directions of the particles can be obtained immediately from the traces of the azimuth apparatus, the actual position of the microseismic source cannot be obtained directly from these. In order to find the true direction of propagation, some reliable, independent means must be used. The most reliable method available at present is positional-phase correlation in which the moment at which a particular phase of the microseismic waves passes three, or more, points is recorded. In the layout at Yalta, the distance between the three points was $\sim$ 1 500 m and the accuracy of the measurements on propagation direction was $\pm 15^{\circ}$.

The authors also studied the horizontal motion of particles in microseisms with the vector apparatus shown in Figure 2. This consisted basically of galvanometers connected to two horizontal seismographs oriented N-S and E-W. All types of observations were made two or four times a day for a time of 20 minutes, during gales.

Card5/9 The source of microseisms in the Crimea is mainly storms

in the Black Sea and the North Atlantic (Ref 12); the former being of shorter period. In considering microseismic structure, the authors consider these two areas separately.

The discussion of results from the North Atlantic is based on nine microseismic records. Only Rayleigh waves are considered, since Love waves were almost entirely absent. Rayleigh waves are considered to be those oscillations which form ellipses or areas of some type in a plane making an angle of 0-45° with the vertical. In this sense, Rayleigh waves made up 13% of the total recorded (variations were from 7-27%), the rest, perhaps, being the result of interference between Rayleigh waves. Since Rayleigh waves are present and Love waves absent, the source must act in a direction perpendicular to the Earth surface. Hence, the idea that these microseisms are due to impulses received by the Scandinavian coastal elevations is contradicted.

The continuous line in Figure 3 represents the azimuths of the polarisation planes for the Rayleigh waves; the dotted line represents the azimuths of microseismic source

directions (obtained from the observed phase changes). It can be seen that, generally, the plane of oscillation for Rayleigh waves is oriented in the direction of the microseismic source.

Figure 4 shows the inclinations of the oscillation planes for Rayleigh waves (ψ) plotted against the number of observed cases. This has a maximum for $\psi = 20 - 30^{\circ}$. It can be seen that in the majority of cases, the plane of oscillation makes an acute angle with the horizon. This would be explicable as due to interference of waves if the Atlantic microseisms differed in direction of propagation at Yalta by not less than 45° and interfered with a phase difference $\sim\pi/2$. However, the measurements made indicate that these values are incorrect.

Figure 5 shows the observed inclinations of planes of oscillation as a function of the direction from which the microseisms arise. Thus, if the direction of propagation varies in azimuth from $270 - 340^{\circ}$, the plane of oscillation is inclined mainly to the North East, whilst waves from the N.E. have planes inclined towards the N.W. These results

indicate that the inclination may be due, not to wave interference, but to the structure of the Earth crust. Figure 6 gives the directions of the major axes of elliptical configurations.
In the case of microseisms from the Black Sea, the angular limits within which the source lies are 180° apart, i.e. considerably greater than for Atlantic microseisms. An analysis of traces from five storms shows that about 5% of the oscillations can be considered as Rayleigh waves and Love waves are completely absent.
Figure 7 is analogous to Figure 3 and shows that the number of Rayleigh waves is very small and their direction of oscillation does not, in general, coincide with the direction of propagation of the wave. Figure 8 shows the directions of the microseism sources. (It should be noted that the second maximum in Figure 7 does not correspond to any real phenomeron.) It is of interest that although a quarter of the oscillations showed an elliptical form, only one-twentieth were Rayleigh waves. This explains the lack of correspondence between the orientation of major axes and the direction of the source. The greater complication of

the Black Sea oscillations as compared with those of the Atlantic can be explained not only by wave interference but also by the greater effect of inhomogeneities of the Earth crust on these shorter, period waves. (The former effect seems to be of more importance, however.)
There are 12 references, 7 of which are English, 4 Soviet and 1 German, and 8 figures.

ASSOCIATION: Akademiya nauk SSSR Institut fiziki Zemli
(Ac.Sc.USSR, Institute of Terrestrial Physics)

SUBMITTED: March 5, 1958

Card 9/9 1. Microseisms--Mathematical analysis

87969

3.9300

S/049/60/000/010/005/014
E133/E414

AUTHORS: Monakhov, F.I. and Dolbilkina, N.A.

TITLE: Microseism Structure and the Determination of the Direction to the Microseism Source

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya geofizicheskaya, 1960, No.10, pp.1463-1465

TEXT: The present authors (Ref.2) and Strobach (Ref.3) have analysed microseisms, but obtained different results for their structure. Strobach has found 35% elliptically polarized oscillations and 65% linearly polarized, whilst the present authors found 15% and 1 to 2%, respectively. The differences appear to be due to the different geographical positions and apparatus. Both results indicated, however, that Rayleigh waves made up not more than a quarter of all the oscillations. Using new apparatus described in Ref.1 and 2, ten recordings of microseisms (each of duration one hour) were analysed. A table is given showing the azimuths of the waves (from the direction of Scandinavia).

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E133/E414

Microseism Structure and the Determination of the Direction to the Microseism Source

The width of the sector depends on the meteorological conditions over the sea off Norway - stronger winds giving sectors of greater angular width. Owing to the considerable width of some of the sectors, microseisms from the same storm can interfere with each other. A further table indicates the amount of interference which takes place. The more localized the region from which the microseisms come, the less the interference. The amount of interference present also depends on the wave intensity. The mean velocity of the microseisms was measured to be 3.3 $\pm$ 0.3 km/sec. It was found from a study of this interference effect that 61% of the microseismic waves were elliptically polarized, 4% were Love waves and the rest were unpolarized. This shows that microseismic interference increases the proportion of Rayleigh waves present. The use of Rayleigh waves to determine the direction to microseismic sources can lead to very large errors. There are 2 tables and 3 references: 2 Soviet and 1 non-Soviet.

Card 2/3

87969

S/049/60/000/010/005/014
E133/E414

Microseism Structure and the Determination of the Direction to the Microseism Source

ASSOCIATION: Akademiya nauk SSSR Institut fiziki Zemli (Academy of Sciences USSR Institute of Physics of the Earth)

SUBMITTED: April 23, 1960

Card 3/3

ACCESSION NR: AP4041180 S/0049/64/000/006/0847/0857

AUTHOR: Dolbilkina, N. A.; Korchagina, O.A.

TITLE: Peculiarities of the formation and propagation of microseisms in the Barents Sea and Sea of Okhotsk

SOURCE: AN SSSR. Izv. Seriya geofizicheskaya, no. 6, 1964, 847-857

TOPIC TAGS: seismology, seismicity, microseism, earth tremor, ice edge

ABSTRACT: An attempt has been made to determine the origin and character of propagation of microseisms occurring in the Barents Sea and Sea of Okhotsk. In the winter months, both these seas are largely covered by ice, which shields the shore and makes it possible to judge the conditions of formation of microseisms distant from the shore and their propagation along the sea floor. Certain cases of the effect of well-developed cyclones and associated microseismic storms are analyzed. The position of the edge of the ice was taken into account, since this made it possible to determine unambiguously the source of the microseismic storm. The microseismic background also was studied to clarify the character of the change in amplitude and period of the microseisms with increasing

Card 1/2

ACCESSION NR: AP4041180

distance between the ice edge and the point of observation (by microseismic background the authors mean microseisms caused by sea waves, not associated with the passage of cyclones or frontal zones over the sea). The study was based on data for the seismic stations at Kheys, Magadan, Petropavlovsk-Kamchatskiy, Kuril'sk, Okha, Murmansk and Barentsburg for the period 1957-1961. It was found that microseisms can be formed in either part of these two seas. In sectors with a continental structure on the floor of the Barents Sea and Sea of Okhotsk the attenuation of microseisms is of the same order of magnitude as on the continent itself. In the area of the continental slope of the Barents Sea there is a considerable scattering of microseismic energy. When microseisms travel through the Kurile basin they attenuate considerably more strongly than when they propagate along continental sectors complicated by mountainous relief. When microseisms propagate in a zone close to the source there is a change in the laws of attenuation (from strong attenuation at short distances to a lesser attenuation at quite great distances).
"In conclusion the authors express sincere thanks to F. I. Monakhov for advice and comments during the course of the work and during discussion of the results." Orig. art. has: 4 formulas, 13 figures and 1 table.

ASSOCIATION: Institut fiziki Zemli, Akademiya nauk SSSR (Institute of Geophysics, SSSR Academy of Sciences)

Card 2/3

ACCESSION NR: AP4041180

SUBMITTED: 24Jun63 ENCL: 00

SUB CODE: ES NO REF SOV: 005 OTHER: 003

Card 3/3

ACC NR: AP7009121 SOURCE CODE: UR/0413/67/000/003/0110/0110

INVENTOR: Dolbilov, E. V.; Korablev, B. N.; Orlik, V. G.

ORG: None

TITLE: A device for detecting and signalling points of contact in labyrinth turbine seals. Class 42, No. 191170 [announced by the Central Boiler and Turbine Institute im. I. I. Polzunov (Tsentral'nyy kotloturbinnyy institut)]

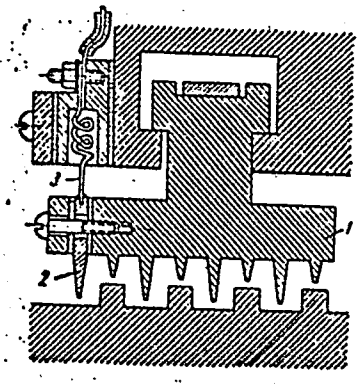
SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 3, 1967, 110

TOPIC TAGS: turbine rotor, turbine stator, rotating seal, measuring instrument

ABSTRACT: This Author's Certificate introduces a device for detecting and signalling points of contact in labyrinth turbine seals with movable serrated segments mounted on elastic springs in the turbine stator. The instrument contains a pickup contact which is isolated from the stator. To avoid changing the fit of the sealing segments and to improve reliability, the pickup is made in the form of a section of the movable sealing segment with an elastic element for connection to a secondary instrument.

Card 1/2 UDC: 620.1.085.3:621.165

ACC NR: AP7009121



1--movable segment; 2--contact; 3--flexible element

SUB CODE: 10/ SUBM DATE: 16Jan65

Card 2/2

35963
S/207/62/000/002/010/015
D237/D302

24.2000

AUTHOR: Dolbin, N. I. (Moscow)

TITLE: Dispersion of elastic waves in an electrically conducting bar

PERIODICAL: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, no. 2, 1962, 104-109

TEXT: The problem is considered of the dispersion of harmonic waves in an ideally conducting, dense, elastic cylindrical bar with a steady current flowing along its surface (strong skin-effect), when the longitudinal internal and external magnetic fields are absent. The author obtains a dispersion equation in form of a 4th-order determinant, connecting the phase velocity with the wavelength, magnetic field intensity and mechanical characteristics of the bar, for various types of oscillations and shows that with suitable parametric values it reduces to a dispersion equation for plasma. A transverse type of oscillation is investigated in more detail and illustrated by graphs. The author expresses his grati-

Card 1/2

Dispersion of elastic ...

tude to A. I. Morozov for proposing the problem and to Yu. N. Rabotnov and G. S. Shapiro for the interest shown. There are 2 figures and 5 references: 3 Soviet-bloc and 2 non-Soviet-bloc. The references to the English-language publications read as follows: D. Bancroft, Phys. Rev., 1941, 59, 588; G. E. Hudson, Phys. Rev., 1943, 63, 46.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet (Moscow State University)

SUBMITTED: December 3, 1961

Card 2/2

41718

S/207/62/000/005/007/012
B125/B102

24.7

AUTHOR: Dolbin, N. I. (Moscow)

TITLE: Propagation of plane elastic waves in an unbounded medium placed in a magnetic field

PERIODICAL: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, no. 5, 1962, 146-147

TEXT: The three different propagation rates of plane elastic waves in an unbounded ideally conducting isotropic medium placed in a constant magnetic field depend on the elastic constants λ, G of that medium, the magnetic field strength and the square of the cosine of the angle between $\bar{H} \| z$ and the wave surface. When the three components $u = f_1(\omega)$, $v = f_2(\omega)$, $w = f_3(\omega)$ of the vector $\vec{u}$ of elastic displacement are substituted in the equation of elastic motion

$$(\lambda + G)\,\mathrm{grad}\,\mathrm{div}\,u + G\,\Delta u - \rho\frac{\partial^2 u}{\partial t^2} + \frac{\mu}{4\pi}[\mathrm{rotrot}\,(u \times H)] \times H = 0 \qquad (1)$$

Card 1/2

Propagation of plane elastic ...

an equation of third order in the form $(\vartheta - h^2n^2)(\vartheta^2 - \vartheta(1 + h^2) + h^2n^2) = 0$ follows. The three propagation rates

$$c_{1,2} = \left[\frac{1}{2\rho}\left(\lambda + 3G + \frac{\mu H^2}{4\pi} \pm \sqrt{(\lambda+G)^2 - 2(\lambda+G)\frac{\mu H^2}{4\pi}\cos 2\gamma + \left(\frac{\mu H^2}{4\pi}\right)^2}\right)\right]^{1/2} \qquad (9)$$

$$c_3 = \left[\frac{1}{\rho}\left(G + \frac{\mu H^2}{4\pi}n^2\right)\right]^{1/2}$$

follow from the three real roots of this equation. μ is the magnetic permeability of the medium, also $\omega = lx + my + nz - ct$; where l, m, n are the cosines of the angles between the normal $\vec{n}$ to the plane ω = const and the coordinate axes, γ is the angle between $\vec{H}$ and $\vec{n}$.

If $n = 0$, $c_1 = \left[(\lambda + 2G + (\mu H^2/4\pi)/\varrho\right]^{1/2}$, $c_2 = c_3 = (G/\varrho)^{1/2}$ and if $n = 1$ then $c_1 = \left[(\lambda + 2G)/\varrho\right]^{1/2}$, $c_2 = c_3 = \left[(G + (\mu H^2/4\pi))/\varrho\right]^{1/2}$. If the waves propagate parallel or perpendicularly to the magnetic field only two different propagation rates exist.

SUBMITTED: March 24, 1962

Card 2/2

S/207/63/000/001/010/028
E032/E114

AUTHOR: Dolbin, N.I. (Moscow)

TITLE: Propagation of elastic surface waves in a half space placed in a magnetic field

PERIODICAL: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, no.1, 1963, 84-87

TEXT: An analysis is reported of the propagation of plane Rayleigh surface waves in a perfectly conducting elastic half space with a plane boundary in the presence of a constant magnetic field. It is based on the equations of motion for a perfectly conducting elastic medium as given by S. Kaliski and D. Rogula (Rayleigh waves in a magnetic field in the case of a perfect conductor, Proc. of Vibration Problems, Warsaw, no.5, 1960, 63-80). It is shown that in a rectangular system of coordinates whose z-axis is along the outer normal to the boundary of the medium, the differential equations for the problem are:

$$\left(\lambda + 2G + \frac{\mu H^2}{4\pi}\right)\Delta\varphi - \frac{\mu H_x^2}{4\pi}\frac{\partial^2\varphi}{\partial x^2} - \rho\frac{\partial^2\varphi}{\partial t^2} = 0, \qquad (2.4)$$

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$$G\Delta\psi + \frac{\mu H_x^2}{4\pi}\frac{\partial^2\psi}{\partial x^2} - \rho\frac{\partial^2\psi}{\partial t^2} = 0 \qquad (2.4)$$

where $\underline{H} = \{H_x, H_y, 0\}$,
the plane simple harmonic Rayleigh wave propagates in the direction of the x-axis so that the vector potential is $\underline{F} = \{0, \psi, 0\}$, and φ is the scalar potential.
The solutions of the above differential equations are then sought in the form

$$\varphi = \Phi(z)\, e^{i(\omega t - kx)}, \quad \psi = \Psi(z)\, e^{i(\omega t - kx)} \qquad (2.5)$$

The resulting differential equations for Φ and Ψ are then solved. It is then assumed that the departure of the magnetic field inside the medium from the constant external field is small, and an equation is obtained for the phase velocity of propagation of plane surface waves. When $H = 0$, this equation becomes identical with the well-known equation for the velocity of surface waves.
Card 2/2 SUBMITTED: September 25, 1962

S/191 / 60/000/007/014/015
B004/B056

AUTHORS: Andreyevskaya, G. D., Dolbin, N. K.

TITLE: Production of Glass Reinforced Plastics in Czechoslovakia

PERIODICAL: Plasticheskiye massy, 1960, No. 7, pp. 68 - 72

TEXT: In this survey of the production of glass reinforced plastics in Czechoslovakia several innovations in production are mentioned. In the production of glass fiber, the feeding of the electric furnace, regulation of temperature and of voltage take place automatically. Glass fabrics for electrotechnical purposes are produced from alkali-free glass, inexpensive glass fabrics for glass ruberoid and glass mats from alkaline glass fiber. A description is given of the automatic capture and rolling-up of the glass fiber emerging from the spinnerets. For the production of glass mats the following is mentioned as being characteristic: The use of easily melting alkali glass,

the use of steel furnaces instead of platinum furnaces, gas heating, high efficiency: about 100 kg glass mats per day and furnace with 100 spinnerets. Further, rowing from alkali-free glass as raw material for glass fiber materials is mentioned. The production of glass fabrics from non-twisted glass fiber is developed. Moreover, a rowing for the production of chopped strands is used. An experimental plant for the continuous production of bands from chopped strands was designed by Engineer Olzenek. Mention is made of the strengthening of the chopped strands with methacrylate, methyl methacrylate and melamine resin. At the Institute for the Mechanization of the Glass Industry, Prague, the production of staple fibers from basalt is being developed. At the Institute of Glass in Hradec Kralovy the use of boron- and alkali-free glass and measures for the increase of the efficiency of electric furnaces are investigated. In a plant, plastics reinforced by glass are being produced: Motorcar bodies for "Tatra" cars, motorcycle sidecars, helmets, etc. At the Institute of Synthetic Resins

and Varnishes at Pardubice, V. Zvonař and E. Gugova, Engineers, developed a method for the partial polymerization of unsaturated polyester resins. The glass tissue saturated with resin is heated to 60 - 65°C for a few minutes, after which it is formable for 1 - 2 months. Definite hardening is carried out by heating for 10 to 15 min. to 130°C. In an experimental workshop canoes made from non-twisted glass fabrics of the type "Iplast-60" and "Iplast-80" are produced. Mention is made of a roof made of glass reinforced plastic, which was on show at the Brussel's World Exhibition in 1958, and a second one, which was shown at Calcutta and now, still intact, serves as a roof for a factory at Brno. At the Cumon Works, tubes made from glass fabrics and epoxy-resin are being produced. A detailed description is given of the production of glass-Ruberoid from glass fabrics and oxidized asphalt, produced from bitumens of Austrian, Chinese, and Czech (near Pardubice) origin. As fillers, ground asbestos, talc and clay are mentioned. The scheme of the fabrication

Production of Glass Reinforced Plastics in Czechoslovakia

S/191/60/000/007/014/015
B004/B056

(Fig.) shows: A storage container with stretching device for the glass mats, which secures continuous production, impregnation with asphalt, cooling and spraying with talc. Conveyer velocity 5 to 7 m/min. The process was developed by Engineer B. Čermak, in 1958. There are 1 figure and 1 Soviet reference.

Card 4/4

KAZARTSEV, Vasiliy Ivanovich, prof., doktor tekhn. nauk; SHARONOV, Gennadiy Prokof'yevich, dots., kand. tekhn. nauk; DOLBIN, Viktor Vasil'yevich, inzh.; SUKHOV, I.V., inzh., red.; FREGER, D.P., red. izd-va; GVIRTS, V.L., tekhn. red.

[Method for the fast complete running-in of a diesel engine with a minimum of initial wear; transcript of a lecture] Rezhim uskorennoi polnoi prirabotki dizel'nogo dvigatelia s naimen'shim nachal'nym iznosom; stenogramma lektsii. Leningrad, Leningr. Dom nauchno-tekhn. propagandy, 1961. 37 p. (MIRA 14:12)
(Diesel engines)

15.6400 1583

22435
S/080/61/034/007/010/016
D223/D305

AUTHORS: Voronkov, M.G., Sharonov, G.P., and Dolbin, V.V.

TITLE: Effect of the nature of sulpho-organic compounds in oil on the frictional wear of metallic surfaces

PERIODICAL: Zhurnal prikladnoy khimii, v. 34, no. 7, 1961, 1562 - 1569

TEXT: The initial wear of new machine parts during the "running in" time can be accelerated by use of sulphurated oils; actual trials have given a time period of 1.5 - 2.0 hours. (Ref. 1: G.P. Sharonov, V.S. Nikandrov, Tankist, 9, 54, 1957). In this connection investigation into the effect of sulphur compounds in oil on running-in and initial machine wear is important both from the theoretical and practical aspects. The article gives the results of investigations on sulphurated oil, its nature, and surveys new sulphurous additions to the oil. The sulphurated oils "industrial 50" and "spindle AV" were produced as follows: To the heated oil

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in a bath at 130-135°C, slowly and with continuous stirring 4.5 wt. % of sulphur flour was added - the additions taking 2 hours - and gradually raising the oil temperature to 150°C. The oil was kept at this temperature for 24 hours, continuously stirring, the total heating time being 28 hours. The sulphurated oil "industrial 50" was obtained containing 4.23 % of sulphur (Ref. 3: Ye.Ya. Anten, N.V. Mitrofanova, T.N. Abramova, G.P. Sharonov, V.S. Nikandrov, Avt. svid. 20319, 1959). The testing on copper sheets showed the disappearance of corrosion for "spindle AV" after 9 hours of sulphuration and for "industrial 50" after 6 hours. The removal of corrosion by the action of sulphur and with increase in the sulphuration time of oil is probably due to the transition of free sulphur into compounded, as well as the elimination from the oil of H_2S and decomposition of mercaptans, since H_2S is a product of the reaction of sulphur and hydrocarbons. The friction experiments are then described using machine MI and lubricant MT-16, obtained from sulphurated and emba natural crude oil. These oils had similar viscosities and contained 1.11 and 0.41 % of natural sulphur respec-

Effect of the nature of ...

tively. In addition to emba crude oil, sulphurated oil was added containing 1.11 % of sulphur, of which 0.41 % was natural sulphur. The frictional drum was made of steel 40X having a microhardness 300-310 while the brake was made from steel 45 which after heat treatment showed a microhardness of 660-680. Fig. 2 shows the curves of temperature change of the surface layer of the brake and frictional movement against the working time of steel samples. Since experimental time was 8 hours per day the curves show discontinuity. It follows that pretreatment of samples using emba oil MT-16 is complete in 68 hours (curve 3, Fig. 2). By this time the frictional movement and temperature of the surface layer measured by a thermocouple have reached their minimum values. The pretreatment of samples in emba oil to which sulphurated oil was added containing 1.11 % of sulphur, was complete in 5 hours (curve 1, Fig. 2) and the minimum values of frictional movement and surface layer temperature did not change after an additional 65 hours. Samples lubricated with MT-16 from crude oil with 1.11 % of natural sulphur were not complete in 70 hours (curve 2, Fig. 2) and

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movement and temperature curves show small gradual decrease with time. The contact area of brake to drum was only 35-40 % compared to the sulphurated oil of nearly 100 %. Tests with oils MK with 0.6 % of molybdenum disulphide, AK-10 with additions of different quantities of IP-22 and industrial 12 with 1.5 % of tsiatim-5 did not give positive results, since they behaved in the same manner as natural sulphur. The sulphurated oil protects the working parts of machine by the formation of thin layer of sulphides FeS, FeS_2, Fe_3S_4. With the formation of iron sulphides, the cubical lattice of alpha-Fe changes into hexagonal lattice FeS which, by analogy with graphite, possesses lubricating properties. To investigate the problem of effect of interaction products of S and hydrocarbons and also the additions of different organic compounds of sulphur, tests were done with a series of organic compounds (mercaptan sulphide, de- and polysulphides, thiophen etc.). The results show that disulphides, in particular dibenzenedisulphide have the same effect as sulphurated oil, while other groups of sulphur organic compounds have not. This necessitated an examination of organic

Effect of the nature of ...

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polysulphides R_2Sn, preferably dibenzenepolysulphides $C_6H_5CH_2SnCH_2C_6H_5$ with $n > 2$. These were prepared by adding corresponding quantities of sulphur to dibenzenedisulphide at 150°C. These compounds with 0.9 - 1.0 % of sulphur were found to be quite effective. There are 5 figures and 3 references: 2 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English-language publication reads as follows: Diesel power, 35, 11, 32, 1957.

SUBMITTED: February 1, 1961

Card 5/7

VORONKOV, M.G.; SHARONOV, G.P.; DOLBIN, V.V.

Effect of the nature of sulfur organic compounds in oil on the running-in and the initial wear of metallic friction surfaces. Zhur. prikl.khim. 34 no.7:1562-1569 Jl '61. (MIRA 14:7)
(Sulfur organic compounds) (Lubrication and lubricants)

SMIRNOVA, T.N.; SERGEYEVA, V.D.; DOLBIN, V.V.

X-ray diffraction study of the effect of organosulfur compounds in oil on the surface treatment and initial wear of metal specimens. Trudy LIEI no.29:33-38 [i.e. 39] '62. (MIRA 16:6)

(X-ray diffraction examination) (Metals--Testing) (Mechanical wear)

L 9303-63 EWT(m)/EPF(c)/T/EWP(b) Pr-4 AFFTC/ASD(m)-3/ASD(p)-3

ACCESSION NR: AT3001321 DJ S/2933/63/005/000/0250/0254

AUTHOR: Voronkov, M. G.; G. P. Sharonov; V. V. Dolbin

TITLE: Effect of organic sulfur compounds in the oil on the running-in of frictional metal surfaces

SOURCE: AN SSSR. Bashkirskiy filial. Khimiya seraorganicheskikh soyedineniy soderzhashchikhsya v neftyakh i nefteproduktakh, v. 5, 1963, 250-254

TOPIC TAGS: oil, organic sulfur compound, lubricating oil, sulfuration, oil additive, running in, abrasion, metal friction, lubricant, sulfur, polysulfide, molybdenum sulfide

ABSTRACT: The preparation and properties of sulfur-containing lubricating oils were investigated, and some new sulfur additives were developed and tested for running-in on the MI and Aye-5 friction machines. In addition, lubrication studies were done with samples of MT-16 oil, MK-22 oil with 0.6% molybdenum sulfide, ... amounts of Tsiatim-... and IP-22 oil containing 3, 17 and 3 ... Sulfuration involved heating with 4.5% S for 2 hrs. at 130-135 C and ... with constant stirring. Tests on copper plates showed that the corrosive effect of ... sulfurated AU spindle oil and "commercial - 50" oil is prevented by ... tion, respectively. The elimination of the corrosive effect of sulfur with ...

1/3

L 9103-65

ACCESSION NR: AT3001321

the time of sulfuration is due to the transition of the elemantal sulfur into the ... the removal of hydrogen sulfide from the oil and the decomposition of ... running-in of specimens on a friction machine was then investigated ... ricating oils obtained from sulfur-containing and ...

... surface layer and in the moment of friction ... respectively. A plot of the ... time in different oils showed that natural sulfur ... running-in ... while ...

... are also described ...

... the machine ... not precipitate from ... the machine building plant ... were obtained with ... dibenzylhexasulfide. Thus, DP-8 oil with ... provides good running-in of the bearing surfaces (70-72) with ... low temperature of the surface layers and a minimal ...

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the high plastic flow in the surface layers resulting from the optimal amount of polysulfide sulfur. The run-in time with DP-8 oil containing 0.9-1.0% dibenzylhexasulfi[illegible] as compared to the most effective additives based on elemental sulfur is reduc[illegible] the same initial wear. Sulfuration was carried out at the Leningradskiy [illegible] im. Shaumyana (Leningrad Petroleum and Oil Plant)." Orig. art. has [illegible]

ASSOCIATION: Institut organicheskogo sinteza AN Latviyskoy SSR (Institute of Synthesis, AN Latvian SSR); Leningradskiy sel'skokhozyaystvennyy [illegible] Agri[illegible]

SUBMITTED [illegible]

ENCL: 00

SUB CODE [illegible]

NO REF SOV [illegible]

OTHER: 001

3/3

BARANOV, Yu.B.; BARANOVA, Ye.N.; BOBROVSKIY, V.I.; GRISHCHENKO, G.I.; GONCHAR, G.V.; DOLBISH, V.S.; KALINOVSKIY V.S.; KARAKOTSKIY, Ye.D., KULICHKOV, G.M.; KAGANOVSKAYA, S.M.; LESTEV, A.V.; METELKIN, L.I.; TIKHONRAVOV, V.M. [deceased]; DOLBISH, V.S., spetsred.; KUZ'MINA, V.S., red.; KISINA, Ye.I., tekhn.red.

[Fishing equipment used in Far Eastern waters] Orudiia rybolovstva Dal'nevostochnogo Basseina. Moskva, Pishchepromizdat, 1958. 214 p. (MIRA 11:12)
(Soviet Far East--Fishing--Equipment and supplies)

OSIPOV, V.G.; DOLBISH, V.S.; KIZEVETTER, I.V.; STEPANOV, I.N., red.

[Tuna fish] Tuntsy. Vladivostok, Tikhookeanskii in-t rybnogo khoz. i okeanografii, 1963. 68 p. (MIRA 17:4)

DOLBISHCHEVA, V.M.

Recording of eye movements; a short review of the Soviet and foreign literature. Nov. med. tekh. no.1:79-91 '62. (MIRA 19:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut meditsinskikh instrumentov i oborudovaniya.

DOLBNEV, E. N. (Eng.)

"Some Possibilites of Temperature Compensation in Detector Voltmeters"

(Use of Semiconductors in Instrument Making; Transactions of a Conference) Moscow, Mashiz, 1958. 258 p.

DOLBNIN, A.V.; BULGAKOV, G.V.

Current problems in the development of yeast production. Gidroliz. i lesokhim. prom. 8 no.6:9-11 '55. (MLRA 9:1)

1.Giprogidroliz.

(Yeast)

BROYDO, N.F.; VANSHENKER, R.Ya.; [redacted]

Automation of operating hydrolysis and sulfite alcohol plants. Gidroliz. i lesokhim.prom.9 no.2:3-6 '56. (MLRA 9:7)

1.Giprogidroliz.
(Wood-using industries) (Automatic control)

DOLBNIN, A.V.; BARKAN, N.V.; BELYAYEVSKIY, I.A.

Basic qualitative index of the operation of hydrolysis plants. Gidroliz. i lesokhim.prom. 10 no.1:29-31 '57. (MLRA 10:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut gidrolizmoy i sul'fitno-spirtovoy promyshlennosti.
(Hydrolysis)

DOLBNIN, A.V.; MOLOCHNYY, B.M.

Small hydrolysis yeast plants. Gidroliz.i lesokhim.prom. 13 no.6:30-31 '60. (MIRA 13:9)

1. Giprobum.

(Yeast)

KAGANOVICH, Yu.Ya.; ZLOBINSKIY, A.G.; KHRABROVA, N.I.; DOLBNIN, A.V.; IVANOV, A.A.; MATUSYAK, B.I.; MASSOV, Ya.A.; TARANOV, Ye.S.

Drying of yeast feeds in the fluidized bed. Gidroliz. i lesokhim. prom. 16 no.6:3-4 '63. (MIRA 16:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut galurgii (for Kaganovich, Zlobinskiy, Khrabrova). 2. Gosudarstvennyy institut po proyektirovaniyu gidrolizhykh zavodov (for Dolbnin, Ivanov, Matusyak, Massov, Taranov).

DOLENIN, A.V.

Developing the production of fodder yeasts. Gidroliz. i lesokhim. prom. 17 no.4 24-25 '64 (MIRA 17:7)

1. Gosudarstvennyy institut po proyektirovaniyu predpriyatiy gidrolizney promyshlennosti.

DOLBNIN, G.

"Social sciences" course in vocational technical schools. Prof.-tekh. obr. 20 no.9:6-7 S '63. (MIRA 16:11)

1. Starshiy metodist podotdela obshchemetodicheskikh voprosov Gosudarstvennogo komiteta po professional'no-tekhnicheskomu obrazovaniyu pri Gosplane SSSR.

DOLBNIN, G.

Important weapon of ideological education. Prof.-tekh. obr. 21 no.10:9-11 O '64. (MIRA 17:11)

1. Chlen kollegii Gosudarstvennogo komiteta po professional'no-tekhnicheskomu obrazovaniyu pri Gosplane SSSR.

DOLBNIN, G. YA.

137-58-5-8767

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 5, p 6 (USSR)

AUTHOR: Dolbnin, G. Ya.

TITLE: From the Organizational Experience of Gold Prospecting (Iz opyta organizatsii staratel'skoy dobychi zolota)

PERIODICAL: Kolyma, 1957, Nr 8, p 42

ABSTRACT: An account of prospecting methods of gold mining as practiced at the "Burkhala" mine.

A. Sh.

1. Gold--USSR 2. Mining industry--USSR

Card 1/1

DOLBNIN, T.

RT-1438 (Parachute injuries and means of prevention) Parashiutnye travmy i mery profilaktiki.
SO: Voenno-Sanitarnoe Delo, (2): 49-57, 1938

DOLENIN, T. V. DECEASED 1963/3

CIVIL DEFENSE (C1962)

L 13473-65 EWT(1)/EWG(k)/EEC(k)-2/T/EEC(b)-2

AUTHOR. Sivilik, V. A. (Active member); Akchurin, E. A. (Active member); Dolbnina, L. N. (Active member)

TITLE: Tunnel-diode frequency convertor

SOURCE: Radiotekhnika, v. 19, no. 10, 1964, 26-32

TOPIC TAGS: frequency convertor, tunnel diode, tunnel diode frequency converter, SHF converter

ABSTRACT: A theoretical and experimental investigation is reported of a broad-band SHF converter which uses a tunnel diode operating in the maxim... zone of its characteristic. The first harmonic of the heterodyne ... a transfer constant >1 results. Two design methods are prop... analytical method, formulas for the voltage transfer constant ... are developed, also, an optimum voltage, which ensures the maxim...

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ACCESSION NR: AP4047809

constant, is determined. The accuracy of the formulas depends largely upon the accuracy of approximation of the current-voltage characteristic [illegible] this method, although more complicated, yields a higher accuracy [illegible] to any position of the operating point on the diode current-[illegible] [illegible] experiments were staged at 20 Mc, 100 Mc, [illegible] [illegible] methods. Orig. art. has: [illegible]

ASSOCIATION: Nauchno-tekhnicheskoye obshchestvo radiotekhniki i elektrosvyazi
(Scientific and Technical Society of Radio Engineering and Electrocommunications)

SUBMITTED: 05Oct63 ENCL: 00 SUB CODE: EC

NO REF SOV: 002 OTHER: 000 ATD PRESS: [illegible]

Card 2/2

DOLBNYA, V. T., Candidate of Tech Sci (diss) -- "Ion transformers with asymmetric grid control". Leningrad, 1959. 16 pp (Min Higher Educ Ukr SSR, Khar'kov Polytech Inst im V. I. Lenin), 150 copies (KL,No 20, 1959, 112)

SOV/110-59-2-9/21

AUTHORS: Mayevskiy, O.A., Candidate of Technical Sciences, and Dolbnya, V.T., Engineer

TITLE: An Asymmetric Grid-Control System with Electro-Magnetic Commutator (Sistema nesimmetrichnogo setochnogo upravleniya s elektromagnitnym kommutatorom)

PERIODICAL: Vestnik Elektropromyshlennosti, 1959, Nr 2, pp 31-37 (USSR)

ABSTRACT: The use of ionic rectifiers to supply electric drives that are widely regulated is restricted because as the speed of the motor is reduced below the rated value, the power factor of the installation falls. Methods that have been suggested to overcome this difficulty include either main current switching, the use of expensive static capacitors, or additional rectifiers. However, the method of asymmetric grid control, described by Uhlmann in Elektrotechnik und Maschinenbau, 1937, p 309, can be used to improve the power factor over a wide range of output voltage simply by altering the low powered grid circuit. The essence of the method is that the ignition angles of the rectifier valves are not maintained constant during operation but are altered at different periods of ignition of each valve according to a certain cycle, with

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